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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,995	02/20/2002	Huizhao Wang	CISCP263/4714	1315
22434	7590	02/09/2007		
BEYER WEAVER LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			EXAMINER RYMAN, DANIEL J	
			ART UNIT	PAPER NUMBER
			2616	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/09/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/080,995

Applicant(s)

WANG ET AL.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 18-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/22/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/28/2006 have been fully considered but they are not persuasive. On page 16 of the Response, Applicant asserts that "Heller neither discloses nor suggests that the information that is obtained from a database includes an access point subnet and a gateway". Examiner, respectfully, disagrees. As outlined in the previous Office Action, Heller discloses that the obtained information includes addresses for the MN, FA and HA and the care-of-address (§ 29). Here the care-of-address is an "access point subnet" since the care-of-address will identify a tunnel end located on the same subnet as the proxy mobile node. In addition, the HA address is a gateway, since as shown in Fig. 3 of Heller, the home agent acts as a gateway. Therefore, Examiner maintains that the cited prior art discloses that the information that is obtained from the database includes an access point subnet and a gateway.

2. On page 16 of the Response, Applicant asserts that "Heller fails to disclose or suggest receiving information from another access point." Applicant also asserts that "Zhang neither discloses nor suggests transmitting access point information identifying an access point subnet and a gateway among access points." In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Here, Heller, as outlined above, teaches using access point information identifying an access point subnet and a gateway. See Heller: § 29). Zhang, as outlined in the rejection below, teaches transmitting access point information among access points. See Zhang: col. 5, lines 13-21. Zhang

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does this to “provide a location update protocol, which reduces the load on the central server/database.” See Zhang: col. 4, lines 46-53. Therefore, the combination of Heller and Zhang suggests transmitting access point information identifying an access point subnet and a gateway among access points to provide a location update protocol, which reduces the load on the central server/database.

3. On page 16 of the Response, Applicant further asserts that “Heller in view of Zhang teach away from determining whether to send a registration request via a particular gateway” and that “since the mobile node of Rai sends its own registration request, it would be unnecessary to send access point information identifying an access point subnet and a gateway among access points to enable access points to compose a registration request on behalf of the node.” In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant's argument is based on the assumption that Rai obviates the use of a proxy to send the registration request since Rai teaches that the mobile node sends the registration request. However, the rejection is based on a combination of references that teach the use of a proxy to send a registration request, thus obviating the need to have the mobile node send the registration request (Heller: ¶ 20, where Heller's invention obviates the need for installing Mobile IP software on mobile nodes, such that the mobile nodes do not support Mobile IP, by using base stations, i.e. access points, that support mobility for a node, see also ¶¶ 16-17). Thus, Applicant's arguments misconstrue the rejection by combining the cited prior art in a manner different than that done by Examiner. Under Examiner's construction, as

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outlined in the rejection below, Heller in view of Zhang suggests that an access point will transmit a registration request whenever an access point receives a link layer message from a mobile node identifying itself (Heller: ¶ 18). In addition, Heller in view of Zhang discloses that a mobile node will send to an access point a link layer message identifying itself regardless of whether or not the mobile node currently has data to send, i.e. the mobile node will register with the access node when it is turned on even if the mobile node currently is not engaged in a data call (Zhang: col. 2, lines 24-36). Rai teaches, in a Mobile IP system, that the Mobile IP standard “requires that whenever an end system changes the IP subnet to which it is attached, it sends a registration request message to a home agent in its home subnet” (col. 41, lines 15-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the access points of Heller in view of Zhang compare a received data packet with an access point subnet to determine whether to send a registration request on behalf of the node (i.e. to determine if the mobile node is sending a data packet in which the mobile node’s subnet is different than the subnet of the access point which indicates that the access point should send a registration request on behalf of the mobile node) since this ensures that (1) the registration request is only sent when a data call is entered into, i.e. registration requests are not sent for mobile nodes which are engaged in wireless communication other than IP data calls, such as voice calls, and (2) that the registration request is only sent when the mobile node changes the IP subnet to which it is attached, such that registration requests are not attempted for mobile nodes that are still in the home subnet.

4. In view of the foregoing, Examiner maintains that the claims are obvious in view of the cited prior art.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heller (US 2002/0147837), of record, in view of Zhang (USPN 6,810,259), of record, in further view of Rai et al. (USPN 6,377,982), of record.

7. Regarding claims 1 and 15-17, Heller discloses a method of and a first access point for supporting mobility for a node that does not support Mobile IP (§ 20, where Heller's invention obviates the need for installing Mobile IP software on mobile nodes, such that the mobile nodes do not support Mobile IP, by using base stations, i.e. access points, that support mobility for a node, see also §§ 16-17), the method comprising the steps of and the access point comprising means for: enabling a third access point to determine whether to send a registration request on behalf of the node using the gateway as the node's Home Agent (§ 18, where a base station, i.e. an access point, receives a link layer message, i.e. a data packet, which it uses to determine whether to send a registration request on behalf of the node to the node's HA and where the HA is a gateway, as shown in Fig. 3).

Heller does not expressly disclose receiving access point information from a second access point; storing the access point information, the access point information including information identifying an access point subnet and a gateway; and sending the access point information to a third access point that supports Mobile IP to enable the third access point to perform the registration. However, Heller does disclose that the third access point performs the registration using access point

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information identifying an access point subnet and a gateway (§ 29, where a base station, i.e. an access point, performs registration on behalf of the node using a care-of-address, i.e. access point subnet, and a HA address, i.e. a gateway as shown in Fig. 3). Heller also discloses that the third access point retrieves address information from a database, although Heller fails to specify how the database obtains this address information (§ 18, where the access point “retrieves Mobile IP information from a database based on the identity of the MN,” including “an IP address for each of the MN, FA and HA plus other information needed to perform the mobile IP registration.”). Zhang teaches, in a mobile communications network, receiving access point information from a second access point at the first access point (col. 5, lines 13-21, where base stations, i.e. access points, transfer location update information amongst the base stations, see also col. 1, lines 31-43, where the location update information is information “necessary for executing call-processing operations associated with the subscriber”); storing the access point information (col. 4, line 65-col. 5, line 12, where the access point information is stored in the memory unit of the base station); and sending the access point information to a third access point (col. 5, lines 13-21, where the access point information will be transferred to another base station when the new base station needs the information). Zhang’s invention “provid[es] a location update protocol, which reduces the load on the central server/database” (col. 4, lines 46-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the base stations of Heller perform the information transfer of Zhang by receiving access point information from a second access point at the first access point; storing the access point information; and sending the access point information to a third access point in order to permit the third access point to obtain the address information required to

perform registration in a manner that reduces load on the central server/database used in a typical system.

Heller in view of Zhang does not expressly disclose enabling the third access point to compare a received data packet with the access point subnet to determine whether to send a registration request on behalf of the node. Rather Heller in view of Zhang suggests that an access point will transmit a registration request whenever an access point receives a link layer message from a mobile node identifying itself (Heller: ¶ 18). In addition, Heller in view of Zhang discloses that a mobile node will send to an access point a link layer message identifying itself regardless of whether or not the mobile node currently has data to send, i.e. the mobile node will register with the access node when it is turned on even if the mobile node currently is not engaged in a data call (Zhang: col. 2, lines 24-36). Rai teaches, in a Mobile IP system, that the Mobile IP standard “requires that whenever an end system changes the IP subnet to which it is attached, it sends a registration request message to a home agent in its home subnet” (col. 41, lines 15-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the access points of Heller in view of Zhang compare a received data packet with an access point subnet to determine whether to send a registration request on behalf of the node since this ensures that (1) the registration request is only sent when a data call is entered into, i.e. registration requests are not sent for mobile nodes which are engaged in wireless communication other than IP data calls, such as voice calls, and (2) that the registration request is only sent when the mobile node changes the IP subnet to which it is attached, such that registration requests are not attempted for mobile nodes that are still in the home subnet.

With respect to claim 17, Heller in view of Zhang in further view of Rai does not expressly disclose computer-readable instructions for implementing the method; however,

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Examiner takes official notice that it is well known in the art to use software to implement a method since software is more flexible than hardware. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the method using software since software is more flexible than hardware.

8. Regarding claim 2, Heller in view of Zhang in further view of Rai discloses that the first access point and the second access point support Mobile IP (Heller: ¶ 18, where all base stations in the system support Mobile IP, as demonstrated by the mobile being handed over from a base station that supports Mobile IP to a base station that supports Mobile IP).

9. Regarding claim 3, Heller in view of Zhang in further view of Rai discloses that the first access point is responsible for sending the received access point information to one or more additional access points (Zhang: col. 5, lines 13-21, where the access point information will be transferred to another base station when the new base station needs the information).

10. Regarding claim 4, Heller in view of Zhang in further view of Rai discloses that the first access point is responsible for sending the received access point information to one or more active access points (Zhang: col. 5, lines 13-21, where the access point information will be transferred to another base station when the new base station needs the information and where the new base station is active).

11. Regarding claim 5, Heller in view of Zhang in further view of Rai discloses that the second access point is an active access point (Zhang: col. 5, lines 13-21, where the access points are active since they are engaged in calls).

12. Regarding claim 6, Heller in view of Zhang in further view of Rai discloses that the third access point is an active access point (Heller: ¶ 18, where the access points acting as proxies are engaged in calls).

13. Regarding claim 7, Heller in view of Zhang in further view of Rai discloses identifying the third access point in a list of active access points that identifies one or more active access points prior to sending the access point information to the third access point (Zhang: col. 5, lines 22-33, where base stations have an associated mirror base station list, i.e. list of active access points, that identifies one or more active base stations prior to sending the access point information to the third access point).

14. Regarding claim 8, Heller in view of Zhang in further view of Rai suggests updating a list of active access points to include the second access point, the list of active access points identifying one or more active access points (Zhang: col. 5, lines 22-33, where presumably the mirror list changes with the addition of new base stations and removal of old base stations).

15. Regarding claim 9, Heller in view of Zhang in further view of Rai discloses that the list of active access points comprises an IP address for each of the active access points (Zhang: col. 7, lines 45-46, where use of IP as the transport mechanism necessitates that the list will include the IP address for each of the active access points).

16. Regarding claim 10, Heller in view of Zhang in further view of Rai discloses at least one of the processor or the memory being further adapted for sending access point information for one or more additional access points to the second access point (Zhang: col. 5, lines 22-33, the access point sends access point information to the access points listed in the active list), the access point information including an access point subnet and a gateway (Heller: ¶ 29, where a base station, i.e. an access point, performs registration on behalf of the node using a care-of-address, i.e. access point subnet, and a HA address, i.e. a gateway as shown in Fig. 3).

17. Regarding claim 11, Heller in view of Zhang in further view of Rai suggests that the access point information further comprises at least one of a netmask and an IP address associated with the

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second access point (Rai: col. 41, lines 15-20, where in order for a device to determine if the subnet has changed, the device needs to have a subnet mask).

18. Regarding claim 12, Heller in view of Zhang in further view of Rai suggests that storing the access point information comprises: storing the access point information in a subnet mapping table including a plurality of entries, each of the plurality of entries being associated with a different access point (Zhang: col. 5, lines 22-33, where the access point information is stored in entries, i.e. mirror cache entries, being associated with a different access point, i.e. associated mirror base stations).

19. Regarding claim 13, Heller in view of Zhang in further view of Rai suggests at least one of the processor or the memory being further adapted for deleting the access point information associated with the second access point (Zhang: col. 5, lines 22-33, where presumably an access point that has failed will be removed from the active list); and instructing the third access point to delete the access point information associated with the second access point (Zhang: col. 5, lines 22-33, where the exchange of information between the mirrored access points will presumably result in the first access point instructing the third access point to delete access point information associated with the second access point).

20. Regarding claim 14, Heller in view of Zhang in further view of Rai suggests at least one of the processor or the memory being further adapted for removing an IP address associated with the second access point from a list of active access points (Zhang: col. 5, lines 22-33, where presumably an access point that has failed will be removed from the active list).

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Daniel J. Ryman
Examiner
Art Unit 2616

DR

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal line extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600